

PILOT™

DUAL CAM

2-in-1 Sports Action / Dash Camera



USER GUIDE



Caution: Please charge unit completely with the car charger, not the USB cable, for the first charge. Doing so may cause battery damage.

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INTRODUCTION

The Pilot [Automotive DualCam](#) is an easy-to-use high-definition (1080P Full HD) car cam recorder with a 1.5" LCD display and impact sensing recording. It records both audio and video with time & date stamp, which can be used to pinpoint exactly when an event occurred. The events are recorded to a Micro SD. The DualCam is perfect for all motorists and is budget-friendly. One button switches between Car Mode, Photo Mode and Sports Mode, making it the perfect device for driving and entertainment.

FEATURES

- HD video quality and real time recording (30fps)
- One button to switch between Car Video / Photo / Sports Video modes.
- Waterproof up to 40 Feet (using the waterproof case).
- Auto recording, video motion detection recording and manual recording (video or snapshot) modes
- Smart impact sensing recording (non-over writable video) and locks up current and post impact sensing video clips
- Auto overwrite when SD is full (for regular recording in Car Mode)
- Built-in microphone and speaker
- 120 degree wide angle lens
- Records 1-min, 3-min or 5-min of continuous video clips
- Built-in rechargeable battery for up 90-mins of usage (recording)

IMPORTANT

This guide provides important information on the use and operation of your Pilot Automotive DualCam and the images/features shown throughout the manual are subject to change without notice due to system and firmware upgrades. Please read all the information carefully prior to using the product for the best performance and to prevent any damage/injuries or misuse of the device(s). Any unapproved changes or modifications will void your warranty. Please ensure to have a complete understanding of the following restrictions.

NOTE: Please check the state laws and regulations to determine if windshield mounting is legal in your country and state.

RESTRICTIONS



When using this product, the safety precautions below must be taken to avoid possible legal liabilities and damages. Retain and follow all product safety and operating instructions. Observe all warnings in the product operating instructions. To reduce the risk of bodily injury, electric shock, fire and damage to the equipment, observe the following precautions.

PLEASE NOTE that under certain circumstances, audio/video recording may be **PROHIBITED** by law.

- **DO NOT** use this product near water, for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool unless waterproof case is being used.
- **DO NOT** place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
- **DO NOT** disassemble this product. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock during subsequent use.
- **DO NOT** use this product to infringe on one's privacy; spying, intercepting, and related activities are illegal and punishable by law. Monitoring one's private activities without consent is illegal, and this product is not designed or manufactured for these purposes.
- **DO NOT** put the plastic packaging bags in reach of children or babies. Plastic bags can create a suffocation hazard when placed over the nose and mouth.
- **DO NOT** plug the AC adapter into the outlet in improper situations.
 - Plugging in an AC adapter with wet hands might cause electric shock.
 - Plugging in the AC adapter unsteadily might cause fire or electric shock.
- **DO NOT** cover the AC adapter when it is connected to an outlet, place the adapter near heaters, or put it on the floor which is equipped with a heater. The above mentioned operation might cause fire or incidents.

DISCLAIMERS

- Please make sure that you are following the regulations and laws set by your country and state DMV (Department of Motor Vehicles) prior to mounting your camera. This manual does not intend to provide any specific legal advice.
- During a car accident, the impact of the collision must be hard enough to trigger the G-Sensor in order for the DualCam to begin recording (No G-Sensor in Sports Mode).
- Pilot Automotive shall not be held responsible for any traffic violations related to the positioning or improper use of our product.
- Avoid mounting the camera inside of an airbag deployment zone.

CONDITIONS

Please read the following messages to make sure your working environment is suitable.

- If your vehicle does not cut off power to your cigarette lighter port, then you may have to manually turn off or unplug the charger to prevent it from overheating.
- The temperature should be kept between -10°C and 50°C (14°F to 122°F). The relative humidity should be kept between 20% and 80%.
- Avoid putting the product in places where temperature or humidity may change rapidly.
- Keep it dry, dustless and avoid lens exposure in direct sunlight.
- Keep product away from heat sources such as electric heaters.
- Do not use the camera near harmful chemicals.
- Do not place product near any strong magnetic objects
- Do not disassemble the product.

PACKAGE CONTENTS



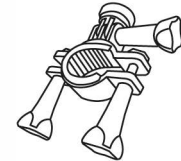
Waterproof Case



Helmet Mount (with Strap)



Suction Cup Car Mount



Bike Mount



Car Charger



Charge / Sync Cable

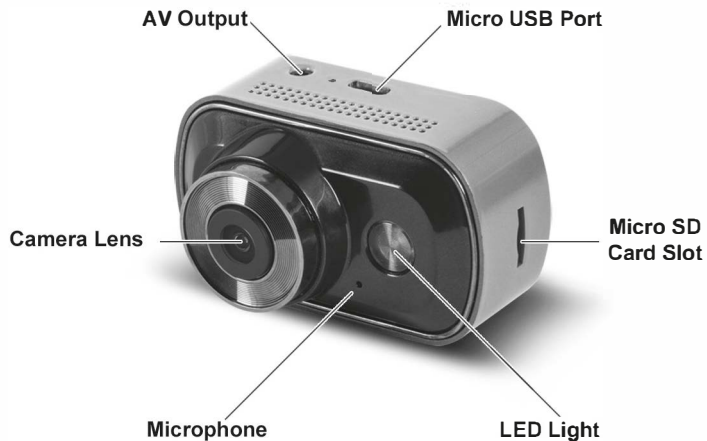


8GB Micro SD Card

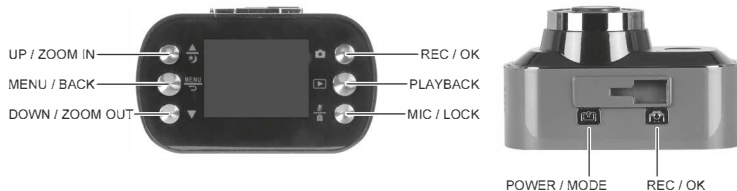


User Manual

PRODUCT BASICS




BUTTONS



UP/ZOOM IN

Navigate through out the menu and make setting selections. It can also Zoom-In up to 4x its original distance while in video or photo mode. 3-sec. hold turns on/off the LED light.

 Please check your local laws and regulations prior to operating the LED light in your vehicle

MENU/BACK

Allows access your DualCam menu settings. Pressing the Menu button again will exit you out of the menu settings.

DOWN/ZOOM OUT

Navigate throughout the menu and make setting selections. It is also used to Zoom-out while in video or photo mode.

REC/OK

Start and stop manual recording while in Video mode. It is also used to take pictures while in Photo mode. It can be used to make setting changes and select which event to view during playback.

PLAYBACK

Switch to Playback to view the videos and photos.

MIC/LOCK

Switch on/off the audio record (long press). This function also locks the current video recording on your DualCam. By locking the video file, it will prevent the file from being manually deleted.

POWER / MODE

Switch between Car mode, Photo and Sports mode. It is also used to manually turn the DualCam on or off when needed (long press), but in most cases the DualCam will automatically turn itself on/off whenever the vehicle does.

GETTING STARTED

MOUNTING THE CAMERA

Please make sure that you are following the regulations and laws set by your country or states DMV (Department of Motor Vehicles) prior to mounting your camera. This will avoid any accidents and traffic violations that can occur if the camera is mounted in a location that is prohibited by law.

NOTE: Pilot Automotive shall not be held responsible for any traffic violations related to the positioning or improper use of our product.

Using the suction cup and rotating bracket, mount the DualCam to the inside of your vehicles windshield (use the adjustment knob to loosen and tighten the camera as needed).

NOTE: The DualCam can also be used to record both exterior and interior (front and rear) of your vehicle. For interior recording, simply follow the steps above and rotate the camera so that the lens is facing the inside of your vehicle.

INSERT THE SD CARD

Insert your micro SD card into the DualCam's micro SD slot. Make sure that you insert the in the correct direction as shown. The SD card will make a clicking sound, indicating it has been locked into the DualCam.



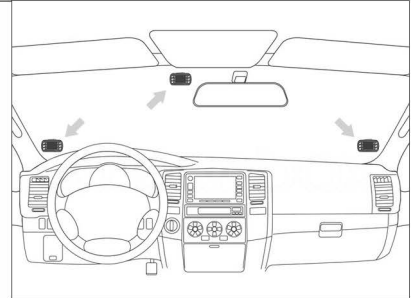
CONNECT THE POWER CABLE

1. Connect the car charger cable into the DualCam's power socket located on the bottom side of the camera.

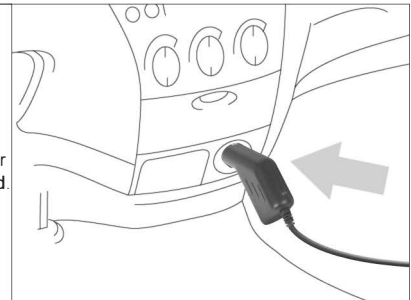
NOTE: Use the brackets adjustment knob to make adjustments as needed.



2. Depending on where you've chosen to mount the DualCam, run the power cable around the trim of your vehicle so that it will not obstruct your view while driving.



3. Insert the car charger into your vehicle's cigarette lighter port as shown. A red light on the car charger will light up, indicating it is connected.



TURNING THE CAMERA ON

There are two ways to turn on your DualCam:

Method 1

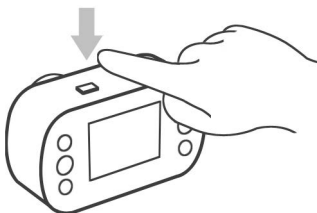
Start your vehicle and the DualCam will automatically turn on and begin recording.



or

Method 2

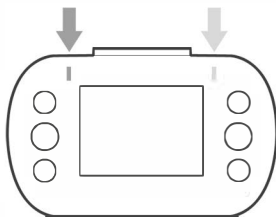
Long press the power button manually to turn on the DualCam.



NOTE: The DualCam will automatically turn on/off whenever your vehicle turns on/ off.

LIGHT INDICATORS

RED LIGHT	
ON	Charging
OFF	Not Charging



BLUE LIGHT	
ON	Power On
OFF	Power Off

BASIC OPERATIONS

SET DATE AND TIME

1. Press the Menu button twice to get to "Setup" menu
2. Select the Date/Time
 - Press the "Down" button until Date/Time option is highlighted
 - Press the "OK" button
3. Change the Date/Time
 - Use the "Up" and "Down" buttons to change the date and the time
 - Use the "POWER" button to go to next, and use the "OK" to confirm the change

FORMAT YOUR SD CARD

1. Press the Menu button twice
2. Select the Format option
 - Press the "Down" button until "Format" option is highlighted
3. Confirm Formatting
 - Press "OK" to confirm your SD Card to be formatted

RESETTING TO DEFAULT SETTINGS

1. Press the Menu button twice
2. Select the "System" option
 - Press the "Down" button until "System" option is highlighted
3. Select "Default Settings"
 - Press "OK" to choose to return to default settings
4. Confirm "Default Settings"
 - Press "OK" to confirm your DualCam will switch back to its default settings

SETTINGS (CAR MODE)

The DualCam's settings are divided into 5 categories: Car Mode, Photo Mode, Sports Mode, Setup, and Playback settings.

NOTE: The "Setup" settings can be accessed from any mode.

The Car mode settings menu consists of settings and options that are used to configure the DualCam's video recording settings. In the Car Video mode, press the "Menu" button to open up the video configuration menu.

CAR MODE SETTINGS

The car mode settings consist of the following configuration options.

- **Resolution** – Video resolution configuration.
- **Loop Recording** – Overwrite configuration.
- **Exposure** – Adjust the amount of light that will affect your image sensor.
- **Motion Detection** – Enables/Disables motion detection recording.
- **Record Audio** – Enables/Disables audio recording.
- **Date Stamp** – Enables/Disables date stamp on recorded events.
- **G-Sensor** – G-force sensor configuration
- **Beep Sound** – Enables/Disables button sound.

RESOLUTION

The DualCam supports various video resolutions that you can select from. The higher the resolution, the better your video quality and the bigger the video size will be. Use the UP/DOWN keys to scroll through the options. Press the REC/OK button to select your desired settings. The available options include:

- **1080HD** (1920x1080) (default)
- **1080P** (1440x1080)
- **720P** (1280x720)
- **WVGA** (848x480)
- **VGA** (640x480)

LOOP RECORDING

The loop recording option serves as two features: "Overwrite" & "Segment Length". The overwrite feature allows the DVR to delete previously recorded events in increments when the SD card becomes full. The segment length feature is the length each recorded event can be before generating a new file. Use the UP/DOWN keys to scroll through the options. Press the REC/OK button to select your desired settings. The available options include:

- **Off** – Disables overwrite and enables the default 24 hour segment recording.

NOTE: Setting this feature to off will create on long video which will stop recording as soon as the file exceeds the memory cards capacity.

- **1 Minute** (default)- Enables the DVR to record/overwrite in 1 minute increments
- **3 Minutes** – Enables the DVR to record/overwrite in 3 minute increments
- **5 Minutes** – Enables the DVR to record/overwrite in 5 minute increments

EXPOSURE

The exposure option lets you select the numeric exposure value for your video recording. The exposure feature consists of the following options:

-2.0 -5/3 -4/3 -1.0 -2/3 -1/3 +0.0 (default) +1/3 +2/3 +1.0 +4/3 +5/3 +2.0

MOTION DETECTION

The motion detection option is used to enable/disable motion detection recording. While the DualCam is on, and the DualCam is on standby, any movement in front of it will trigger a recording. The Motion Detection feature consists of the following options:

- **Off/Disable**(default)
- **On/Enable**

NOTE: Make sure the "Auto Power Off" function is set to "Off" to let the DualCam stay on during standby mode. When motion detection is active or turned ON, the G sensing will be deactivated. Please make sure motion detection is turned OFF for 2G and 4G sensor to function properly.

AUDIO RECORDING

The Audio Recording option is used to enable/disable audio recording. A "Mic" symbol will appear on the recording screen to indicate that audio recording is enabled. The record audio feature consists of the following options:

- **Off / Disable**
- **On / Enable** (default)

NOTE: Some states prohibit the use of audio recording. Please make sure you contact your local law enforcement agency if you are unclear on your Country or state laws and guidelines.

DATE STAMP

The date stamp option is used to enable/disable the date & time stamp from being displayed on playback videos. The date stamp feature consists of the following options:

- **Off / Disable**
- **On / Enable** (default)

G-SENSOR

The G-Sensor option is used to enable/disable the DualCam's G-force/impact sensor which will lock the previous and current file from being deleted by the overwrite feature. The G-force acts as a sensor for the DualCam to secure any video files recorded in the event that the vehicle gets hit. Any force that is acted upon the vehicle will result in locking the current recording video file.

NOTE: Formatting the SD card will result in erasing all files, including the locked video files. The G-Sensor feature consists of the following options:

- **Off / Disable**
- **1G** (default) - Represents 9.81m/s² of force (passenger car turning on a corner)
- **2G** - Represents 19.62m/s² of force (bump on the road)

BEEP SOUND

The Beep sound enables/disables the button sound.

- **On (default)**
- **Off**

SETTINGS (PHOTO MODE)

The Photo mode settings configure the DualCam's photo snapshot settings. In the Photo mode, press the "Menu" button to open up the Camera configuration menu.

PHOTO MODE SETTINGS

The photo mode settings consist of the following configuration options.

- **Capture Mode** – Used to configure single or timed snapshots.
- **Resolution** – Photo resolution configuration.
- **Burst Mode** – Burst mode option.
- **Sharpness** – Image sharpness configuration.
- **White Balance** – White balance configuration.
- **Exposure** – Image exposure adjustment.
- **Quick Review** – Enables/Disables quick review.
- **Date Stamp** - Enables/Disables date stamp on recorded events.

CAPTURE MODE

The capture mode option lets you configure how the DualCam will operate every time the snap shot button is pressed. For example, you can set it to take an instant snap shot every time or you can implement a timer delay which will automatically take a snap shot when the set time has expired. The capture mode consists of the following options:

- **Single** (default)
- **2s Timer**
- **5s Timer**
- **10s Timer**

RESOLUTION

The DualCam supports various "Mega Pixel" resolutions that you can select from. The available options include:

- **5 Mega Pixels**
- **3 Mega Pixels**
- **1.3 Mega Pixels**

BURST MODE

The burst mode option lets you enable the "multiple shot" option. When you take a snapshot, it will take multiple shots in a single take, up to 5 pictures. The burst mode feature consists of the following options:

- Off (default)
- On

SHARPNESS

The sharpness option lets you select the image sharpness of the photos being taken. They make edges appear more defined by darkening the darker pixels and brightening the brighter pixels. The sharpness feature consists of the following options:

- **Strong**
- **Normal** (default)
- **Soft**

WHITE BALANCE

The white balance option lets you remove unrealistic color casts, so that objects which appear white in person are rendered white in your photo. The white balance feature consists of the following options:

- **Auto** (default)
- **Daylight**
- **Cloudy**
- **Tungsten**
- **Fluorescent**

EXPOSURE

The exposure option lets you select the numeric exposure value for your snap shots. The exposure feature consists of the following options:

-2.0 -5/3 -4/3 -1.0 -2/3 -1/3 +0.0 (default) +1/3 +2/3 +1.0 +4/3 +5/3 +2.0

QUICK REVIEW

The quick review option lets you preview images you've just taken for a short amount of time. The quick review feature consists of the following options:

- Off (default)
- 2 Seconds
- 5 Seconds

DATE STAMP

The date stamp option lets you enable or disable the time stamp from being displayed on all the photos. The date stamp feature consists of the following options:

- Off
- **Date**
- **Date / Time** (default)

SETTINGS (SPORTS MODE)

The Sports mode settings configure the DualCam's photo snapshot settings. In the Photo mode, press the "Menu" button to open up the Camera configuration menu.

SPORTS MODE SETTINGS

The sports mode settings consist of the following configuration options.

- **Resolution** – Video resolution configuration.
- **Exposure** – Adjust the amount of light that will affect your image sensor.
- **Record Audio** – Enables/Disables audio recording.
- **Date Stamp** – Enables/Disables date stamp on recorded events.
- **Beep Sound** – Enables/Disables button sound.

RESOLUTION

The DualCam supports various video resolutions that you can select from. The higher the resolution, the better your video quality and the bigger the video size will be.

Use the UP/DOWN keys to scroll through the options. Press the REC/OK button to select your desired settings. The available options include:

- **1080HD** (1920x1080) (default)
- **1080P** (1440x1080)
- **720P** (1280x720)
- **WVGA** (848x480)
- **VGA** (640x480)

EXPOSURE

The exposure option lets you select the numeric exposure value for your video recording. The exposure feature consists of the following options:

-2.0 -5/3 -4/3 -1.0 -2/3 -1/3 +0.0 (default) +1/3 +2/3 +1.0 +4/3 +5/3 +2.0

AUDIO RECORDING

The Audio Recording option is used to enable/disable audio recording. A "Mic" symbol will appear on the recording screen to indicate that audio recording is enabled. The record audio feature consists of the following options:

- **Off / Disable**
- **On / Enable** (default)

NOTE: Some states prohibit the use of audio recording. Please make sure you contact your local law enforcement agency if you are unclear on your Country or state laws and guidelines.

DATE STAMP

The date stamp option is used to enable/disable the date & time stamp from being displayed on playback videos. The date stamp feature consists of the following options:

- **Off / Disable**
- **On / Enable** (default)

BEEP SOUND

The Beep sound enables/disables the button sound.

- **On** (default)
- **Off**

SETUP

The Setup menu configures the DualCam's system settings such as date and time, language, default settings, etc. It can be accessed from any mode. Press the Menu button twice to access the Setup menu.

SETUP SETTINGS

The setup settings consist of the following configuration options.

- **Date/Time** – Date and Time configuration.
- **Auto Power Off** – Auto System Shut Off configuration.
- **Language** – Language settings.
- **Frequency** – Light frequency configuration.
- **Screensaver** – Backlight/screensaver duration configuration.
- **LED Light** – Enables/Disables the LED Light.
- **Flip Screen** – Flips your screen upside-down.
- **Format** – Formats your SD card.
- **Default Settings** – Restores the DualCam to its factory default settings.
- **Firm Version** – Displays Firmware information.

DATE/TIME

The date/time option is used to set and configure the DualCam's current date and time format. The button configurations are listed and described below:

- **UP/DOWN** – Use these to scroll through each selection
- **MODE** – This button scrolls through the date and time (i.e. Month to Day to Year, etc.)
- **REC/OK** – Press this button to accept and save your date/time.

AUTO POWER OFF

The auto power off option is an auto shut-down feature which, after a set time frame of inactivity (not recording) or standby, the DualCam shuts off. The auto power off feature consists of the following options:

- **Off**
- **1 Minute** (default)
- **3 Minutes**

LANGUAGE

The language option lets you change the language of the DualCam. The language feature consists of the following options:

- **English** (default)
- **Français** (French)
- **Español** (Spanish)
- **Português** (Portuguese)
- **Deutsch** (German)
- **Italiano** (Italian)
- 简体中文 (Simplified Chinese)
- 繁體中文 (Traditional Chinese)
- **русский** (Russian)
- 日本語 (Japanese)
- 한국어 (Korean)

FREQUENCY

The frequency option switches between the two most commonly used refresh rates "60Hz" and "50Hz". By default the DualCam is set to 60Hz which is standard for United States and Japan. The frequency feature consists of the following options:

- **50Hz** – Standard for Europe and China.
- **60Hz** (default) – Standard for United States and Japan.

SCREENSAVER

The backlight option controls the time you want your screen to stay on before the screen turns off during video recording. For safety purposes, it is recommended for the screen on the DualCam to not stay on while the vehicle is in motion. The backlight feature consists of the following option:

- **Off**
- **30 Seconds** (default)
- **1 Minute**
- **2 Minutes**

LED LIGHT

The LED Light option enables/disables the front LED Light.

- **On**
- **Off** (default)

FLIP SCREEN

The image rotation flips the screen vertically. This provides the option of having the DualCam mounted upside down. The image rotation setting feature consists of the following options:

- **Off** (default)
- **On** – Selecting this option flips the screen

FORMAT

The format setting option is used to erase all files inside your SD card, including protected files. The format feature consists of the following options:

- **Cancel**
- **OK**

DEFAULT SETTING

The default setting option is used to apply the DualCam's manufacturer default settings. The default setting feature consists of the following options:

- **Cancel**
- **OK**

FIRM VERSION

The version option is used to view the DualCam's firmware.

PLAYBACK SETTINGS

The Playback settings menu provides actions for video clips or photos that have been recorded in the DualCam. In the Playback mode, you can press “OK” button to play/pause and press the “Menu” button to open up the Playback configuration menu.

PLAYBACK SETTINGS

The playback settings consist of the following configuration options.

- **Delete** – Delete video/photo files
- **Protect** – Protect video/photo files

DELETE

This option allows you to delete video or photo files in your SD card. You may choose to delete one file at a time or delete all simultaneously. The available options include:

- **Delete Current** – Delete selected video/photo
- **Delete All** – Delete all videos and photos in the DualCam

NOTE: Any protected files will not be deleted if “Delete All” is selected

PROTECT

The Protect option helps prevent any video files or photo files from being deleted. When selecting “Delete All”, the protected file will not be erased.

NOTE: When “Formatting” the SD card, protected files will also be erased. The available options include:

- **Lock Current** – Protects the selected file.
- **Unlock Current** – If the file is already protected, this option will unprotect the file.
- **Lock All** – Locks all files on the SD card.
- **Unlock All** – Unlocks all files on the SD card.

PLAYING BACK VIDEOS

You can play back recorded events using two methods; directly from the DualCam or on a computer.

PLAYBACK ON THE DUALCAM

To play back events directly from the DualCam navigate to the playback screen using the Playback button. You can use the following buttons to play back and delete the recorded events:

NOTE: Traffic lights may flash during playback.

BUTTON	ACTION	DESCRIPTION
Rec/OK	Press once (when not playing back video)	- Selects the highlighted events to playback / view - Confirm an option when prompted
	Press once (during video playback)	- Pause the video
Mode	Press once	- Switches to “video” mode
Up	Press once (during multiple file view)	- Used to navigate through the recorded events
	Press once (during video playback)	- Fast forward the video
Down	Press once (during multiple file view)	- Used to navigate through the recorded events
	Press once (during video playback)	- Rewind the video

PLAYBACK ON A COMPUTER

To playback recorded video on a PC or Mac:

1. Remove the Micro-SD card from the camera by gently pushing on the SD card allowing it to pop out from its slot.
2. Insert the Micro-SD card into a Micro-SD card reader (not included) connected to your PC (your PC should load the SD card as a new Removable Drive).
3. When prompted, select the “Open folder to view files” option to view its contents (you should see a folder labeled DCIM).
4. Open the DCIM folder to view a list of all the recorded event folders. Once inside the dated folder you can double-click any of the recorded AVI or JPG files to open them up in your default media player.

SPECIFICATIONS

LCD Size	1.5" TFT LCD
Image Sensor	Digital HD color CMOS sensor
Viewing angle	120°A+ grade high-resolution ultra wide-angle
Language for options	English, Français (French), Español (Spanish), Português (Portuguese), Deutsch (German), Italiano (Italian), 简体中文 (Simplified Chinese), 繁體中文 (Traditional Chinese), русский (Russian), 日本語 (Japanese), 한국어 (Korean)
Video resolution	1920x1080 (Full HD), 1440x1080 (1080P), 1280x720 (720p), 840x480 (WVGA), 640x480 (VGA)
Video/Photo formats	AVI / JPEG
Photo pixels	5M / 3M / 1.3M Pixels
SD slot	Micro SD card (supports up to 32GB, Class 4 or above)
Overwrite	Yes
Microphone	Built-in (Menu: On/Off)
Speaker	Built-in
Recording frame rate	30fps
Video recording mode	* Auto record when the ignition is turned on and stop when engine is turned off (with car cigarette lighter cable connected) * Manual record by pressing REC button * Video Motion Detection record
Shooting mode (photo)	Single, 2s timer, 5s timer, 10s timer,
Frequency	60Hz / 50Hz
TV standard	NTSC / PAL
USB port	USB 2.0
PC mode (via USB)	Mass Storage or PC Camera
Power supply	Input: DC12V-24V, Output: 5VDC / 1.0A
Rechargeable battery	3.7V / 700 mAh (Charging time: 90-Minutes) Recording time: 65 Minutes. Standby Time: 90 Minutes
Camera size (L*W*H)	2.80"x1.2"x1.5" (without bracket)
Operating temperature	-10°C to 50°C (14°F~122°F)
Non-Operating temperature	-20°C to 65°C (-4°F~149°F)
Operating humidity	≤85% RH